Ushering in new technologies

WisDOT is constantly seeking new solutions to transportation problems that maximize the effectiveness of investments and help utilize the existing system in a more efficient manner. Through research and deployment of new technologies, Wisconsin can ensure a high quality transportation system that meets the changing needs and demands of the future.

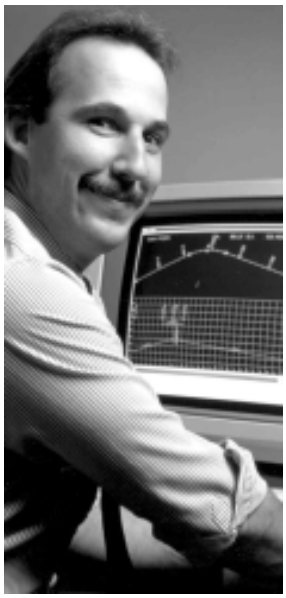
Intelligent Transportation Systems (ITS)

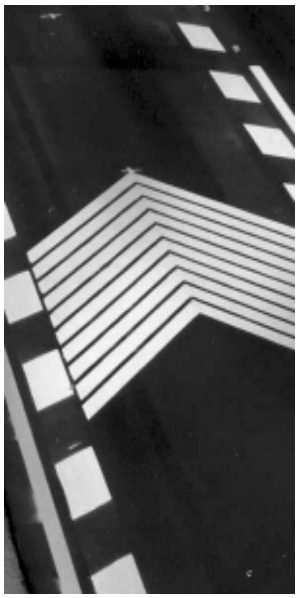
In 1990, southeastern Wisconsin began implementing cutting edge technology in traffic management with one of the country's first intelligent transportation systems (ITS).

Electronic pavement detectors and ramp meters help regulate the flow of traffic on freeways. Closed circuit television systems help law enforcement and emergency personnel monitor traffic incidents. Overhead message boards and Internet congestion maps help keep citizens well informed on traffic conditions.

Similar ITS products are now planned for deployment in Dane County, and other ITS devices will be deployed across the state to meet needs in both urban and rural areas.

Technical accomplishments





Global Positioning Systems (GPS)

GPS utilizes satellites to pinpoint the exact location and movement of vehicles, and is an important tool for highway maintenance crews, commercial vehicle operators, transit providers and emergency responders. Today, many personal vehicles are equipped with GPS that can provide directions to the motorist, or transmit location information to emergency personnel in the event of a crash.

On-board computers utilizing GPS are also being studied as a potential new approach to collecting transportation revenues. Wisconsin is one of ten states working with university researchers and the Federal Highway Administration to determine whether these technologies might be used to track the mileage of vehicles and then calculate a user fee based on actual roadway use.

GPS instrument approach procedures have greatly improved access to and use of Wisconsin's airports for both business and recreational purposes. The number of instrument landing systems has dramatically increased, allowing aircraft to land safely under difficult weather conditions. This technology has helped make airports more attractive to businesses and served as an economic boost for local communities.

Weather systems

Wisconsin has one of the nation's first statewide road weather information systems. The system collects data at 54 sites, including temperature, wind speed and other factors. Combined with weather forecasting information, the data helps road maintenance crews to more effectively combat winter storms.

Researching new ideas

Wisconsin's transportation research program combines state, federal, academic and industry resources to conduct cutting-edge studies. Such studies include those to reduce highway noise and make the most effective use of transit services to link low-income workers to jobs.

Through the national Strategic Highway Research Program, the state championed early research to test new highway pavements and technologies. A six-mile segment of Highway 29 is part of a living laboratory that has brought researchers from around the world to construct and study pavement test sections.

A new research program teams university researchers, the Federal Highway Administration, WisDOT and private associations to develop longer-lasting, cost-efficient highway products. The research program leverages private and public sector funds and will lead to the creation of a permanent Wisconsin Transportation Research Center.

WisDOT's Council on Research brings a multi-modal perspective to research by examining transit, motor vehicle, financing, and policy issues.

New pavements

In 1992, Wisconsin pioneered a new, longer-lasting asphalt called Superpave – a unique asphalt recipe now widely used throughout the state for its durability in the state's harsh climate. Wisconsin has also been a frontrunner in the use of high performance concrete pavements and innovative paving techniques such as ultra-thin whitetopping.

WisDOT's Traffic Operations Center (TOC)

Technical accomplishments